

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000055206	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2004/014454	International filing date (day/month/year) 18.12.2004	Priority date (day/month/year) 22.12.2003	
International Patent Classification (IPC) or national classification and IPC . B01J23/46 B01J37/18 C07D303/30 C08G59/24 B01J21/08			
Applicant BASF AKTIENGESELLSCHAFT			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 6 sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>

<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input checked="" type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/014454

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

 - international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

pages 1-26 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

the claims:

nos. _____ as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19 22.10.2005 with letter of 20.10.2005

nos.* 1-44 received by this Authority on _____

nos.* _____ received by this Authority on _____

the drawings:

sheets _____ as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. The amendments have resulted in the cancellation of:

the description, pages _____

the claims, nos. _____

the drawings, sheets/figs _____

the sequence listing (*specify*): _____

any table(s) related to sequence listing (*specify*): _____
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____

the claims, nos. _____

the drawings, sheets/figs _____

the sequence listing (*specify*): _____

any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement

Novelty (N)	Claims	4-14	YES
	Claims	1-3	NO
Inventive step (IS)	Claims	4-44	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-44	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

D1: WO 02/100538 A (BASF AKTIENGESELLSCHAFT; BOETTCHER, ARND; VANOPPEN, DOMINIC; ARNDT, JA) 19 December 2002 (2002-12-19)

D5 and D6 are not cited in the international search report. Copies of the documents are appended.

D5: WO 98/56498

D6: WO 2004/102162

1. The present application fails to meet the requirements of PCT Article 33(1) for the following reasons:

D5 (figures 6, 7, 9; page 4, line 20 - page 5, line 3; claims 1, 13; page 16, line 17 - page 17, line 9; page 18, lines 6-12) discloses amorphous silicon oxide-containing substrates. ^{29}Si NMR spectra are disclosed for some of these substrates. All of these spectra show a percent ratio of Q2/Q3 of less than 15, and it can therefore be generally assumed that the Q2/Q3 ratio is

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PCT/EP2004/014454Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

less than 15. The substrates can contain ruthenium and are therefore heterogeneous ruthenium catalysts.

The subject matter of at least claims 1 to 3 is therefore not novel within the meaning of PCT Article 33(2) over D5.

2. The subsequently submitted example demonstrates an effect in relation to the closest prior art, **D1** (page 4, lines 13-35; page 10; lines 39-41; claims 1-4), because ruthenium leaching is significantly reduced compared to a catalyst according to claim 1 (use of a silica substrate with Q2/Q3 of less than 25%). The subject matter of claims 15 to 29 and 30 to 44 is therefore novel and inventive.

The examples in the present application also demonstrate that the use of a distilled feed brings about advantages with regard to the hydrogenation process because the Ru/SiO₂ catalyst is then deactivated less quickly.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
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2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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See supplemental sheet.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **BOX VI**

Certain documents cited

D6 was published after the filing date of the present application, but has an earlier filing date (priority) than the present application. D6 will therefore not be taken into account during the PCT phase, but could be taken into account during a national phase.

D6 (figure 5; paragraphs [0039], [0050], [0053]) discloses amorphous silicon dioxide-containing substrates. ^{29}Si NMR spectra are disclosed for some of these substrates. All of these spectra show a percent ratio of Q2/Q3 of less than 15, and it can therefore be generally assumed that the Q2/Q3 ratio is less than 15. The substrates can contain ruthenium and are therefore heterogeneous ruthenium catalysts.

D6 is therefore prejudicial to the novelty of the subject matter of at least claims 1 to 3.